

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. - 11. (Cancelled)

12. (Currently amended) Synthetic peptide A-V-K-E-G-P-E-Q-V-I-P-I-N (SEQ ID NO: 2).

13. (Currently amended) Synthetic peptide Y-T-N-G-P-L-P-D-K-L-Q-Q-A-R (SEQ ID NO: 3).

14. (Currently amended) Synthetic peptide R-S-G-C-N-G-D-S-G-G-P-L-N (SEQ ID NO: 5).

15. (Currently amended) Synthetic peptide G-P-L-N-C-P-T-E-D-G-G-W-Q (SEQ ID NO: 4).

16. – 24. (Cancelled)

25. (New) A method for obtaining polyclonal or monoclonal antibodies specific for human pancreatic elastase iso-enzyme comprising the steps of:

immunizing a vertebrate animal with an immunogenic composition comprising a conjugate consisting of a non-elastase carrier protein and a peptide, wherein the peptide is selected from the group consisting of:

NH<sub>2</sub>-A-V-K-E-G-P-E-Q-V-I-P-I-N-COOH (SEQ ID NO: 2)

NH<sub>2</sub>-Y-T-N-G-P-L-P-D-K-L-Q-Q-A-R-COOH (SEQ ID NO: 3)

NH<sub>2</sub>-R-S-G-C-N-G-D-S-G-G-P-L-N-COOH (SEQ ID NO: 5)

NH<sub>2</sub>-G-P-L-N-C-P-T-E-D-G-G-W-Q-COOH SEQ ID NO: 4)

NH<sub>2</sub>-S-L-Q-Y-E-K-S-G-S-F-Y-COOH (SEQ ID NO: 15)

NH<sub>2</sub>-F-G-C-N-T-R-R-K-P-T-V-F-T-COOH (SEQ ID NO: 16)

NH<sub>2</sub>-G-G-E-E-A-R-P-N-S-W-P-W-Q-COOH (SEQ ID NO: 10)

NH<sub>2</sub>-S-S-S-R-T-Y-R-V-G-L-G-R-H-N-COOH (SEQ ID NO: 11)

NH<sub>2</sub>-K-D-W-N-S-N-Q-I-S-K-G-N-D-COOH (SEQ ID NO: 12)

NH<sub>2</sub>-G-P-L-N-C-Q-A-S-D-G-R-W-COOH (SEQ ID NO: 13), and

NH<sub>2</sub>-G-A-L-P-D-D-L-K-Q-G-R-L-COOH (SEQ ID NO: 14);

thereby inducing the formation of the antibodies in the immunized vertebrate animal; and  
separating and purifying the formed antibodies from the immunized vertebrate animal to  
obtain polyclonal antibodies specific for human pancreatic elastase iso-enzyme, or  
fusing B-cells from the immunized animal with a myeloma cell line and selecting and  
cloning hybridoma cell lines to obtain monoclonal antibodies specific for human  
pancreatic elastase iso-enzyme.

26. (New) The method of claim 25 wherein the vertebrate animal is selected from the group  
consisting of rabbits, guinea pigs, goats, chicken and fish.

27. (New) The method of claim 26 wherein the vertebrate animal is a chicken.

28. (New) The method of claim 25 wherein the non-elastase carrier protein is selected from hemocyanin or albumin.

29. (New) An isolated and purified polyclonal antibody specific for a human pancreatic elastase iso-enzyme made by a method comprising the steps of:

immunizing a vertebrate animal with an immunogenic composition comprising a conjugate consisting of a non-elastase carrier protein and a peptide, wherein the peptide is selected from the group consisting of

NH<sub>2</sub>-A-V-K-E-G-P-E-Q-V-I-P-I-N-COOH (SEQ ID NO: 2),

NH<sub>2</sub>-Y-T-N-G-P-L-P-D-K-L-Q-Q-A-R-COOH (SEQ ID NO: 3),

NH<sub>2</sub>-G-P-L-N-C-P-T-E-D-G-G-W-Q-COOH (SEQ ID NO: 4),

NH<sub>2</sub>-R-S-G-C-N-G-D-S-G-G-P-L-N-COOH (SEQ ID NO: 5),

NH<sub>2</sub>-S-L-Q-Y-E-K-S-G-S-F-Y-COOH (SEQ ID NO: 15),

NH<sub>2</sub>-F-G-C-N-T-R-R-K-P-T-V-F-T-COOH (SEQ ID NO: 16),

NH<sub>2</sub>-G-G-E-E-A-R-P-N-S-W-P-W-Q-COOH (SEQ ID NO: 10),

NH<sub>2</sub>-S-S-S-R-T-Y-R-V-G-L-G-R-H-N-COOH (SEQ ID NO: 11),

NH<sub>2</sub>-K-D-W-N-S-N-Q-I-S-K-G-N-D-COOH (SEQ ID NO: 12),

NH<sub>2</sub>-G-P-L-N-C-Q-A-S-D-G-R-W-COOH (SEQ ID NO: 13), and

NH<sub>2</sub>-G-A-L-P-D-D-L-K-Q-G-R-L-COOH (SEQ ID NO: 14);

thereby inducing the formation of the antibodies in the immunized vertebrate animal; and

separating and purifying the formed antibodies from the immunized animal to obtain the isolated polyclonal antibodies specific for human pancreatic elastase iso-enzyme.

30. (New) A diagnostic method for determining pancreatic function in a human patient, the method comprising the steps of:

providing one or more different purified polyclonal antibodies each elicited against an immunogenic composition comprising a conjugate consisting of a non-elastase carrier protein and one or more synthetic peptides selected from the group consisting of

NH<sub>2</sub>-A-V-K-E-G-P-E-Q-V-I-P-I-N-COOH (SEQ ID NO: 2),

NH<sub>2</sub>-Y-T-N-G-P-L-P-D-K-L-Q-Q-A-R-COOH (SEQ ID NO: 3),

NH<sub>2</sub>-G-P-L-N-C-P-T-E-D-G-G-W-Q-COOH (SEQ ID NO: 4), and

NH<sub>2</sub>-R-S-G-C-N-G-D-S-G-G-P-L-N-COOH (SEQ ID NO: 5);

wherein said different antibodies are each specific for human pancreatic elastase;

obtaining a sample of a bodily fluid or stool from the patient;

mixing the sample with the one or more different purified antibodies to form specific immune complexes among the antibodies and human pancreatic elastase present in the sample; and

detecting an amount of the immune complexes to determine an amount of human pancreatic elastase iso-enzymes in the sample, wherein the identification or the amount of a human pancreatic elastase iso-enzyme in the sample is indicative of pancreatic function in the patient.

31. (New) The diagnostic method of claim 30 wherein the bodily fluid sample is a sample of serum, plasma, or pancreatic juice.

32. (New) The diagnostic method of claim 30 wherein the sample is a stool sample.

33. (New) The diagnostic method of claim 30 wherein at least two different anti-elastase isoenzyme antibodies are provided and the method is a sandwich enzyme linked immunosorbent assay wherein the sample is brought into contact with a specific anti-elastase isoenzyme antibody immobilized onto a fixed phase and detected with a suitable detection system.

34. (New) A diagnostic kit for determining a disorder of pancreatic function or determining mucoviscidosis in a human patient comprising:

one or more different purified polyclonal antibodies each elicited against an immunogenic composition comprising a conjugate consisting of a non-elastase carrier protein and one or more synthetic peptides selected from the group of

NH<sub>2</sub>-A-V-K-E-G-P-E-Q-V-I-P-I-N-COOH (SEQ ID NO: 2),

NH<sub>2</sub>-Y-T-N-G-P-L-P-D-K-L-Q-Q-A-R-COOH (SEQ ID NO: 3),

NH<sub>2</sub>-G-P-L-N-C-P-T-E-D-G-G-W-Q-COOH (SEQ ID NO: 4), and

NH<sub>2</sub>-R-S-G-C-N-G-D-S-G-G-P-L-N-COOH (SEQ ID NO: 5);

wherein said different antibodies are each specific for human pancreatic elastase.

35. (New) The diagnostic kit of claim 34 adapted to perform a sandwich enzyme linked immunosorbent assay wherein the kit comprises at least two different antibodies and wherein at least one of the antibodies is solid phase carrier-immobilized and at least one different of the antibodies is detectably labelled.
36. (New) The diagnostic method of claim 30 wherein the method is an enzyme linked immunosorbent assay wherein the sample is brought into contact with specific anti-elastase isoenzyme antibodies immobilized onto a fixed phase and detected with a suitable detection system.
37. (New) The diagnostic method of claim 36 wherein the method is a sandwich enzyme linked immunosorbent assay and the sample is brought into contact with specific anti-elastase isoenzyme antibodies recognising more than one elastase epitope, wherein part of said antibodies are coupled to a carrier to form a fixed phase and another part of said antibodies recognising another or additional epitopes are conjugated to an agent allowing detection.
38. (New) The method of claim 36 wherein the specific anti-elastase iso-enzyme antibodies are cross-reactive epitope antibodies recognising more than one epitope of elastase.